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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,209	12/15/2003	Seiji Umemoto	Q78829	1811

23373 7590 10/04/2005

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EXAMINER	
NGUYEN, THONG Q	

ART UNIT	PAPER NUMBER
2872	

DATE MAILED: 10/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)	
	10/735,209	UMEMOTO ET AL.	
	Examiner	Art Unit	
	Thong Q. Nguyen	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 July 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *26-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *26-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 July 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *5/25/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The present Office action is made in response to the amendment and the Terminal Disclaimer filed on 7/13/05. It is noted that in the amendment, applicant has made changes to the specification, the drawings and the claims. Regarding to the claims, applicant has amended claims 33-35 and added one new claim, i.e., claim 39, into the application. The pending claims 26-39 are examined in this Office action. (Note: Claims 1-25 were canceled by the applicant in the amendment of 12/15/2003).

Drawings

2. The drawings contained one sheets of figures 13-14 in which figure 14 is labeled as Prior Art has been received by the Office on 7/13/05. This corrected sheet of figures 13-14 is accepted by the Examiner.

Specification

3. The lengthy specification which is amended by the amendment of 7/13/05 has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

4. The objections to claims 33-34 under 37 CFR 1.75(c) are now withdrawn due to the amendments to claims as indicated in the amendment of 7/13/05.

Claim Rejections - 35 USC § 112

5. The rejection of claim 35 under 35 USC. 112, second paragraph, is now withdrawn due to the amendment to claim as indicated in the amendment of 7/13/05.

Double Patenting

6. The rejection to claims 26-27 and 30-38 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of U.S. Patent No. 6,659,615 is now withdrawn due to the filing of a Terminal Disclaimer by the applicant on 7/13/05. The terminal Disclaimer is approved by the Office.

Claim Rejections - 35 USC § 102

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 26, 28-31, 36-37 and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Bao et al (EP 867 747, of record).

Bao et al disclose a reflective display system. The system comprises a transparent guide light adhesive to a panel. In columns 14-15 and figs. 9-11, the transparent light guide (20) having two surfaces in which one surface comprises a pattern of prismatic elements and the other surface comprises an adhesive layer (40a) for bonding the light guide to a panel (O). The prismatic configuration as shown in figure 10 comprises a continuously set of triangular-shaped projections (facing outwardly from the surface of the light guide) or grooves (facing inwardly from the surface of the light guide) aligned in a substantially constant direction. Each projection/groove is formed by a first facet (22) defined

a slightly angle with the surface of the guide light and acts as a reference, and other facet (21) of the projection/groove defined an angle larger than the angle formed by the mentioned first facet with the surface of the guide light. As shown in figure 9, the prismatic configuration comprises a plurality of prismatic projection which each extends in a direction parallel to the side (or entrance) surface of the guide light facing the light source system (30) (see also figure 11).

Regarding to the feature that the transparent film has an average in-plane retardation not larger than 30 nm (or 20 nm as recited in claim 29) and the average thickness retardation is not larger than 50 nm (or 30 nm as recited in claim 29), it is noted that while Bao et al do not clearly disclosed that the transparent guide (20) has such an in-plane retardation and average thickness retardation; however, Bao et al disclose that the light guide is made by acrylic resin (see page 7) which material is one of the material for making the transparent film of the present invention (see present specification in page 13). Since the same material is used for the transparent guide (20) in the device of Bao et al and the transparent film disclosed in the present application, it is clear to conclude that the transparent light guide (20) provided by Bao et al has an average in-plane retardation and an average thickness retardation in the range as claimed in the present claims 26 and 28-29.

Regarding to the difference in refractive indexes between the adhesive layer and the transparent light guide, it is noted that the material for making the adhesive layer (40a) is a resin having its refractive index matching with the refractive index

of the transparent guide light (20) and the panel (O). See column 14, for example.

Regarding to the use of a reflector disposed to the transparent light guide, it is noted that the panel (O) comprises a reflector 98) which is disposed close to the surface having prismatic structure.

Regarding to the value of the inclination angle of the optical changing slope, it is noted that the angle defined by the facet (21) in each of the optical changing slope with the transparent surface of the light guide (20) is 45 degrees which is larger than 35 degrees. See column 14, lines 23-24. See also In re Wertheim, 541 F. 2d 257, 191 USPQ 90 (CCPA 1976), "the disclosure in the prior art of any value within a claimed range is an anticipation of that range.".

Claim Rejections - 35 USC § 103

9. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

10. Claims 27 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bao et al in view of in view of the Japanese reference No. 11-142618 (of record).

The optical device having a transparent light guide as provided by Bao et al as described above does not disclose that the adhesive layer has a strip sheet. However, the use of a combination of an adhesive layer and a strip sheet on one surface of a glass plate wherein the adhesive layer is a diffusing layer is suggested to one skilled in the art as can be seen in the optical film provided in the Japanese reference '618. Thus, it would have been obvious to one skilled in

the art at the time the invention was made to modify the device as provided by Bao et al by using an adhesive layer having a diffusing feature and a strip sheet for covering the adhesive as suggested by the Japanese reference '618 for the purpose of providing an adhesive layer having a diffusing feature and the strip sheet which strip sheet is removably used to protect the layer before the adhesive is placed in use.

11. Claims 33 and 35, as best as understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Bao et al in view of Qiao et al (U.S. Patent No. 5,485,291, of record).

The optical device having a transparent light guide in which a prismatic structure is formed on one surface thereof as provided by Bao et al does not disclose that the prismatic structure comprises discontinuous grooves. However, the use of a light guide having a prismatic structure formed on one surface thereof wherein the prismatic structure comprises a plurality of discontinuous grooves is known to one skilled in the art as can be seen in the lighting panel provided by Qiao et al. In columns 2-4, Qiao et al discloses an arrangement of discontinuous grooves on one surface of the light guide (17). Each of the groove is formed by two slopes in which one slope is gentle inclination with the plane of the light guide, i.e. in the range of 1 degree to 15 degrees while the other slope is formed with the plane of the light guide by an inclination in the range of 35 degrees to 55 degrees. It is noted that since the depth of the groove in the range of 5 and 10 micrometers and the angle of the gentle inclination is in the range of 1 degree to 15 degrees;

therefore, the length of each discontinuous groove is not smaller than five times as large as a depth of the groove. It is also noted that since the land between two adjacent grooves can be 200 microns; therefore, the area of the discontinuous grooves can be selected or controlled so that it is not larger than 10% of the area of the whole surface of the light guide. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the transparent light guide with prismatic structure formed on one surface thereof as provided by Bao et al by utilize a prismatic structure as suggested by Qiao et al for the purpose of improving the optical performance of the whole system.

12. Claims 32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bao et al in view of Umemoto et al (U.S. Patent No. 5,727,107, of record).

The optical device having a transparent light guide in which a prismatic structure is formed on one surface thereof as provided by Bao et al does not disclose that the prismatic structure comprises flat surfaces each having an inclination angle of not larger than 5 degrees with respect to the light guide plane and the projected width of the flat surface is not smaller than 10 times as large as a projected width of the changing slope. However, the use of a light guide having a prismatic structure formed on one surface thereof wherein the prismatic structure comprises a plurality of continuous grooves having the mentioned features is known to one skilled in the art as can be seen in the lighting panel provided by Umemoto et al . In columns 6-7 and shown in figures 5(a-d), Umemoto et al discloses a light guide having prismatic structure formed on one surface thereof

wherein the prismatic structure comprises continuous grooves each formed by a long facet and a short facet wherein the angle defined by the long facet and the light guide plane is 2 degrees or less and the angle defined by the short facet and the light guide plane is in the range of 25 to 50 degrees. See columns 6-7. Regarding to the feature related to the comparison between the projected width of the flat surface is not smaller than 10 times as large as a projected width of the changing slope; such feature is disclosed by Umemoto in column 6, lines 10-18, for example. Regarding to the feature related to the shape of the grooves as recited in claim 32, such a feature is not critical to the invention and is also an obvious matter to one skilled in the art. The support for that conclusion is found in the present application in which the present claim 31 recites that the groove has a triangle configuration and the art of Umemoto et al in column 6 and figs. 5-6 in which they disclose that the shape of the groove/protrusion has a tetragon configuration. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the transparent light guide with prismatic structure formed on one surface thereof as provided by Bao et al by utilize a prismatic structure as suggested by Umemoto et al for the purpose of improving the optical performance of the whole system.

Response to Arguments

13. Applicant's arguments filed on 7/13/05 have been fully considered but they are not persuasive.

A) Regarding to the rejection of claims 26, 28-31, 36-37, now applied to claims 26, 28-31, 36-37 and 39 under 35 USC 102(b) over the art of Bao (EP 867 747), applicant has argued: "It is the applicant's....the disclosure of Bao" and made a conclusion that the art of Bao does not disclose the feature related to a transparent film has an average in-plane retardation not larger than 30 nm as claimed. The Examiner is respectfully disagreed with the applicant's opinions for the following reasons.

First, in the rejection as set forth in the previous Office action and now repeated in this Office action, the Examiner has stated that "it is noted that while Bao et al do not clearly disclosed that the transparent guide (20) has such an in-plane retardation and average thickness retardation; however, Bao et al disclose that the light guide is made by acrylic resin (see page 7) which material is one of the material for making the transparent film of the present invention (see present specification in page 13). Since the same material is used for the transparent guide (20) in the device of Bao et al and the transparent film disclosed in the present application, it is clear to conclude that the transparent light guide (20) provided by Bao et al has an average in-plane retardation and an average thickness retardation in the range as claimed in the present claims 26 and 28-29". Applicant's is respectfully invited to review the present specification which supports for the feature claimed. In particular, the present specification has disclosed a plurality of materials which are able to use to make the transparent film of the device claimed. It is also noted that the specification has not disclosed

any specific components or structures of the material used to make the transparent film. In that aspect, the use of the same material in the prior art as in comparison with the material disclosed and used to support for the device claimed will yield the same function/result.

Second, while applicant has argued that the material of acrylic resin does not necessarily have in-plane retardation not larger than 30 nm; however, applicant has not provided any written evidence to support for the applicant's conclusion. It is also noted that it is the Examiner's opinion that the use of the material of acrylic resin with having a retardation of less than 30 nm is known to one skilled in the art as can be seen in the device provided in the U.S. Patent No. 5,907,382 (Column 4, lines 54+) or U.S. Patent No. 6,171,663 (column 6, lines 40+).

B) Regarding to the rejections of claims 27, 32-35 and 38 under 35 USC 103(a), it is noted that since the applicant has not provided any specific arguments to the rejection except a reference that the primary reference, Bao (EP 867 747), does not disclose the feature of a film having average in-plane retardation less than 30 nm; therefore, the claims still rejected for the same reasons as set forth in the previous Office action and repeated in this Office action.

Conclusion

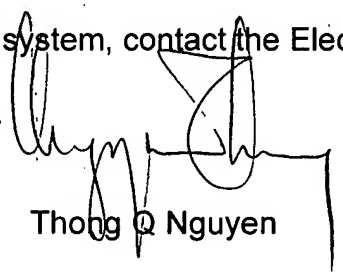
14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong Q. Nguyen whose telephone number is (571) 272-2316. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Thong Q Nguyen

Primary Examiner
Art Unit 2872

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